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## **Racial and Gender Risks of Privacy Exposure on the Internet**

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### **Abstract**

The increased use of social media has led to a greater risk of information exposure that can be exploited by external parties. In this study, we look at whether there are differences by race and gender in risk of exposing potentially stigmatizing information. We conducted a quantitative investigation, where we selected a random sample of black male, black female, white male, and white female Facebook profiles in the city of New Orleans, and coded whether the profiles had potentially stigmatizing information such as profanity and sexual suggestiveness. We found that there are significant differences by race and gender in whether Facebook profiles were public and whether profiles revealed use of profanity, use of drugs, and religious preferences. Our findings also show that in some domains African Americans and males are more at risk of exposure of potentially stigmatizing information. These findings are significant because they demonstrate another way in which racial order can be reproduced in American society.

### **Key Terms:**

- Internet Privacy
- Gender Discrimination
- Race Discrimination

## Introduction

Social media and social networks have become modern phenomena. To date, over 1.73 billion social networkers fill the cyber-world with vines, tweets, snaps, and even personal information—and the number is steadily rising. Though the increased use of social media has led to a more closely connected society, it has also led to a greater risk of information exposure that can be exploited by college admission committees, employers, creditors, and even thieves. In this study, we selected a random sample of black male, black female, white male, and white female Facebook profiles in one mid-sized Southern city and coded whether the profiles had potentially stigmatizing information such as profanity and sexual suggestiveness. We found that there are significant differences by race and gender in profile privacy and the amount of stigmatizing information in those respective profiles. Although we have not tested for the causal factors as to why these racial and gender differences exist, our findings do show that there are particular domains in which African Americans and males, in general, are more at risk of exposure of potentially stigmatizing information. We believe that these findings are important because they show yet another way in which racial order can be reproduced in American society.

## Contemporary Privacy Risks: Literature Review

### *Privacy on Facebook*

In 2004, Mark Zuckerberg launched Facebook for students at Harvard College; by 2007, Facebook was one of the most used social networking sites (SNS) in history, with more than 200 million users worldwide (Curtis, 2013). By 2011, social media was accessible from virtually anywhere and had become an integral part of individuals' daily lives with more than 550 million people on Facebook, 65 million

tweets sent through Twitter each day, and 2 billion video views every day on YouTube (Curtis, 2013). However, public sharing of personal information via social media sites raised concern over privacy and the risks of low privacy (Curtis, 2013), especially on Facebook.

Initially, Facebook's approach to privacy was "network-centric" (Boyd and Hargittai 2010), meaning that by default, students' content was visible to all other students on the same campus, but no one else. However, after a series of redesigns, Facebook provided users more advanced privacy settings to share information with "No One," "Friends," "Friends-of-Friends," or a specific "Network" (Boyd & Hargittai, 2010). Despite these settings, research has shown varying results in regard to individuals' knowledge of what can be seen on their profiles.

Acquisti and Gross (2006) surveyed a cohort of college students about privacy and examined the connections between students' privacy attitudes, their beliefs about what information they were sharing in comparison to what they were actually sharing, and their general awareness of Facebook's privacy mechanisms. They found that 75 percent of users knew what they were sharing, and the majority of the participants understood the wide visibility of their content. However, a significant minority was "vastly underestimating the reach and openness of their own profile" (Acquisti & Gross, 2006). Tufekci (2012) found that about 20 percent of the students surveyed deactivated their profile at least once, 82 percent had changed the settings in the last year, and 90 percent of those made their profile less visible due to privacy or visibility concern (p. 339). These researchers surveyed college students and not the general population, who is likely to be less aware and educated on the risks of low privacy settings and wide visibility.

Raynes–Goldie (2010) argues that “users are more concerned about being exposed to people that they know, rather than having their data accessed by governments and corporations.” However, today many social networking sites, such as Facebook, are used by various companies, organizations, institutions, and universities to screen prospective employees, students, or connections. Therefore, embarrassing, sexually provocative, racist, sexist, or even religious content on social networking sites can be used against an individual in various ways.

### *Modern Risks of Social Media and Networks*

#### ***College and employment decisions***

In a job interview, recruiters are not permitted to ask about the candidate’s religious preference, marital status, or sexual orientation. While employers are legally prohibited from asking those questions, many employers check social media profiles of prospective employees before making their final decision (Noguchi, 2014).

Many colleges and university admissions offices have also used data gathered from these sites to make their decisions. According to Singer (2014), “Of the 403 undergraduate admissions officers who were polled by telephone over the summer, 35 percent said they had visited an applicant’s social media page.” Another study found that of the 381 college admissions officers who answered a telephone questionnaire in 2013, “31 percent said they had visited an applicant’s Facebook or other personal social media page to learn more about them” and more crucially, 30 percent of the admissions officers said they had discovered information that had negatively affected an applicant’s prospects (Singer 2013). Therefore, depending on the interviewer or admission counselor’s preference, the data gathered from these sites

could negatively affect the applicants’ chances of acceptance or employment.

The basis for negative judgments by employers and college admission committees may stem not only from questionable posts showing drunkenness, profanity, or sexual explicitness, but also by revealing demographic features about oneself, such as race, religion, and political preferences. According to Ambrosino (2014):

The researchers study created 3,200 resumes for fictitious job applicants and sent them to prospective employers through a popular employment Web site. Each employer was sent four different applications containing varying biographical information but comparable job qualifications. The only thing that set the resumes apart from each other was the mention of involvement with a particular religious group, [and] there was also a control group that contained no reference at all to religious involvement. Resumes that mentioned any of the seven religious affiliations on average received 29 percent fewer emails and 33 percent fewer phone calls than the control group. Certain groups did fare worse than others, though. Muslims, for instance, received 38 percent fewer emails and 54 percent fewer phone calls than the control group.

According to Wallace, “Reports of religious discrimination in the American workplace are increasingly common, [and] in the last 20 years, religious-based complaints filed by employees with the U.S. Equal Employment Opportunity Commission increased from 1,388 in 1992 to 3,790 in 2010” (Ambrosino, 2014).

Revealing party affiliation on social media may also be a basis for discrimination. Because politics are so controversial, groups on

opposing sides tend to view the other in a negative and judgmental manner. Iyengar and Westwood (2014) tested the partisanship based on race and party affiliation and showed that Americans are partial to those with similar alignments and characteristics. Americans have increasingly shown great dislike for people and groups on the other side of the political divide, but they do not face any social repercussions for their biased or open expression of these attitudes. Iyengar and Westwood (2014) showed that in the partisan task where the participants had to choose between a Democrat and Republican high school candidate for a scholarship, “approximately 80 percent of partisans (both Democrats and Republicans) selected their in-party candidate” (p. 698). These findings suggest that information gathered from social networks that reveal an individual’s party or political preferences could potentially affect decisions about employment.

### ***Credit decisions and theft***

Today, an increasing number of lending companies are using Facebook, Twitter, and other social media data to determine a borrower’s creditworthiness or identity (Armour, 2014). Investors look for potential problems such as whether applicants put the same job information on their loan applications, and if they shared on Facebook that they had been fired by an employer (Armour, 2014). Alex Sion, president of New York-based Moven, a mobile-online banking company, states, “The data we have on customers via social networks says more about them than their FICO” (Armour, 2014).

This same information is also used by criminals to locate, research, and rob their victims. According to Nashua (2010), 50 home burglaries were facilitated by a group of suspects who used social networking sites such as Facebook to identify victims who posted online that they would not be home at a certain time (Police: Thieves Robbed Homes Based On

Facebook, Social Media Sites, 2010). The 2011 report from Credit Sesame showed that, 80 percent of robbers check Twitter, Facebook, or Google Street View, indicating that social media is becoming an integral tool for robbers to plan their next target (Dickinson, 2011). Though the percentage has continued to increase over the years, the use or even misuse of their information could be less detrimental if individuals increase privacy setting or are more careful with which information to publish on these sites (Experian Perspectives Newsletter, 2011). According to Experian:

While some studies estimate that up to a third of social networkers have posted at least three pieces of information that puts them at risk for identity theft, the 2014 Federal Trade Commission study asserts that the 20-29 year old age bracket continues to account for 24 percent of all identity theft cases, with 8 percent of all cases comprised in the 19 and under age bracket.

This study also shows that students are particularly vulnerable to thefts, due to their eagerness to make friends, meet new people, and exchange personal information through social networks (Experian Perspectives Newsletter, 2011). Sharing personal information such as religious preference, party affiliation, and sexual orientation, or even excessively liking pages on Facebook can reveal information that can be considered private and risky when used by certain individuals.

### **Method**

To examine whether race and gender matter in risk of privacy exposure on social media, we chose to look at Facebook profiles in one mid-sized Southern city that is majority African American. To obtain a random sample of Facebook profiles, we took the top seven most



popular surnames in this city and queried Facebook's "Find People" search tool to get a sample of profiles with that last surname in our selected Southern city. For each surname we chose the first 10 profiles that had profile photos that in our best judgment were: white male, white female, black male, and black female. This gave us 40 profiles per surname. If a profile had no picture, was racially indeterminate, appeared to be a joke or satirical profile (e.g. a profile of William Sherman featuring the Civil War general), that profile was also skipped.

There is no absolute way of ensuring a completely random selection of Facebook profiles. Voter registration lists, for example, are already biased based on race, income, education, and age. Even if we were to have a complete list of residents in the selected city and took a random sampling from that list, we would have no assurance that the name we selected from our list matched the Facebook profile since certain names are common.

Surnames are given, not chosen, therefore we believe that there is no selection bias in the socio-demographic composition of particular surnames. In addition, Facebook's search tool gave different names with each search, so there appears to be some randomization in how the search tool returns names. For each profile, we examined the basic information displayed about the person, the likes the person indicated in the "About" tab of their profile, and the posts the person made in 2013. We then coded whether the profile contained profanity, sexually suggestive material, indicators of the person's religiosity, political affiliation, and other potentially stigmatizing material.

There is bias in that the people who are on Facebook are not a representative sample of the people who live in the city. The people we selected are people who are more likely to be socially connected, socially outgoing, and derive

benefit from being connected on Facebook. We do not believe that there is any particular racial and gender bias within this sample. Within each group, Facebook will draw the more socially connected and socially outgoing. We do not believe that one particular race or gender subgroup draws more socially outgoing people than another. In our sample, white males have a higher average number of friends. Therefore, one would assume that the study would be biased against finding African Americans as having a higher propensity to reveal information because of the smaller size of their friendship network. Even if there are biases in the personality distribution within each subgroup, we believe the information is still useful for looking at our particular question. Within the existing sample of publicly available Facebook profiles, we endeavor to find out whether there is a difference in which racial groups expose more potentially damaging information.

## Results

### *Public Posts*

The first hypothesis tests whether race and gender have an effect on the privacy status of an individual's Facebook profile. Public posts are defined as a person allowing *all* Facebook users to see their posts; private posts are not public to anyone on Facebook. The independent variables race and gender are specifically categorized as white male, white female, black male, and black female. Figure 1 shows that a higher percentage of black males (89.2 percent) and black females (90.9 percent), compared to white males (75.4 percent) and white females (81.7 percent), have public posts in our sample of Facebook profiles.

The likeliness of public posts as a function of race and gender is determined in the logistic regression analyses presented in Figure 2. Because the dependent variable is dichotomous, the hypothesis is then tested using

a logistic regression. The difference in race is significant ( $p=.013$ ) while gender is insignificant ( $p=.39$ ). It is more likely for a black person than a white person to have a public Facebook page.

### *Profanity*

Any use of the top fifteen common swearing words on Facebook or close variants were coded as profanity (see Kirk 2013 for list). Of the 252 Facebook users with valid public posts, only 44 (or 17.5 percent) had profanity on their wall. Figure 3 shows that of these 44, black males have the largest amount of profanity users (19), while white females have the smallest (5). White males have a slightly higher percentage within their own group (16.4%) compared to black females (15.2%). As seen in Figure 2, logistic regression shows that the differences in both race (.040) and gender (.020) are significant. Therefore, blacks and males are more likely to have profanity on their Facebook page than whites and females.

### *Religious Posts*

The next subcategory of potentially stigmatizing material was religious posts. Any posts or statuses that alluded to any religious affiliation or spiritual preference were coded as religious. Figure 4 shows 50 percent of all the black females had some sort of religious post followed by 38.5 percent of black males, 25 percent of white females, and just 14.8 percent of white males. The racial differences in religious posts are supported by the logistic regression analysis of the variables. With a significant value to three decimal places, race serves as a predictor of the presence of religious posts; blacks are more likely to have religious content than whites. In contrast, the relationship between gender and religious posts is not quite significant. Its 0.056 value falls outside the test for significance, 0.05.

### *Drug Posts*

Stigmatizing posts consisted of whether or not individuals had revealed drug use or

expressed support for drugs. For example, if the individual mentioned drug use in an approving manner in their statuses or posts, or if the individual was photographed or featured in a photograph depicting the use of drug, it was coded as a stigmatizing post. Of the 252 public Facebook profiles in our sample, only 16 purportedly had drug related posts. Figure 5 shows that among the 6.3 percent of users that had such posts, 7 of them were white males, 8 were black males and only one was a white female.

The results of the logistic regression analysis show that while race does not have a significant relationship with drug posts, gender does. With a .007 significant value, gender becomes a relatively good indicator of drug posts (see Figure 2), with males more likely than females to have drug-related posts.

### *Total Stigmatizing Posts*

We tested other subcategories of potentially stigmatizing information such as revelation of political party, the presence of job complaints, and sexually explicit posts. Racial and gender differences in these other categories were either insignificant (as in political party affiliation) or there were too few profiles with such potentially stigmatizing material to produce significant variation (as with job complaints and sexually explicit posts).

We also combined our measures into one overall metric, stigmatizing posts. Stigmatizing posts are a combination of the variables profanity, political party, drugs, job complaints, and sexually explicit posts. Therefore, if the Facebook user posted any sort of post belonging to any of these five categories, they are considered to have stigmatizing posts. According to the data, white females and black females have a noticeably smaller percentage than males. However, logistic regression (Figure 2) shows that neither race nor gender have significant

relationships with whether the profile had any kind of stigmatizing posts. However, analyzing the individual variables within stigmatizing variables still supports the original hypothesis that there are racial and gender differences in the presence of some kinds of stigmatizing material.

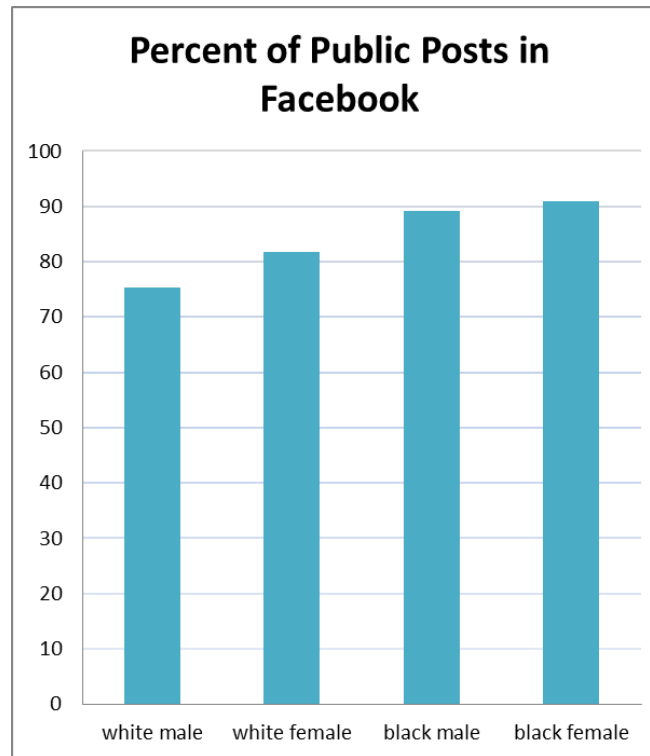
## Discussion and Conclusion

We have found significant racial differences in relation to public profiles and to publicly reveal profanity and religious content, with African Americans more likely to reveal such information. We have also found significant gender differences in propensity to post profanity and material related to drug content, with males more likely to reveal this information. We have not tested for the causal factors as to why these racial and gender differences exist. It could be that these patterns occur because of race, income, education, or other factors. Class may explain some of the racial disparity, since African Americans tend to have lower income and wealth. Another possibility is that African Americans tend to be employed in menial jobs in which employers are unlikely to care about transgressions in social media. However, income and employability are probably not the only factors determining risk of privacy exposure since gender is an influence as well. The gender difference could be due to gender norms, or because of difference in educational attainment between men and women, with women tending to have higher educational attainment than men. We do not have enough evidence to isolate these potential multiple causes.

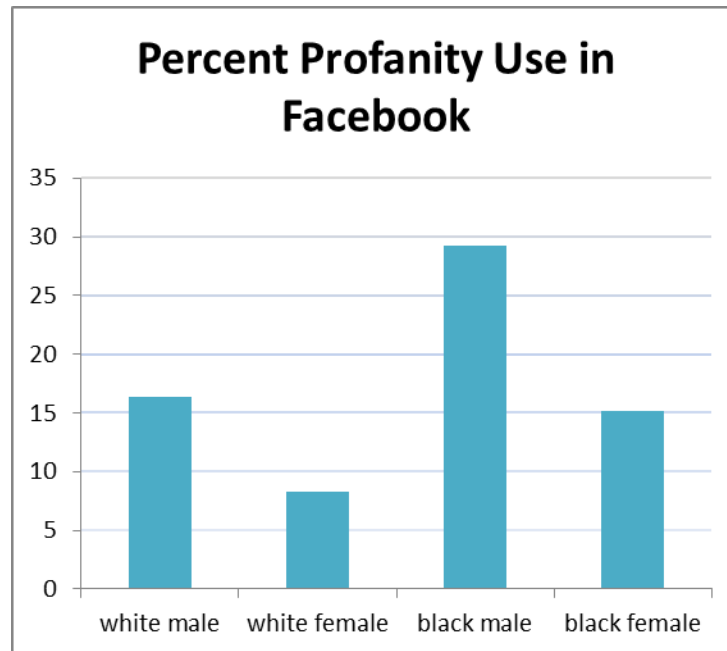
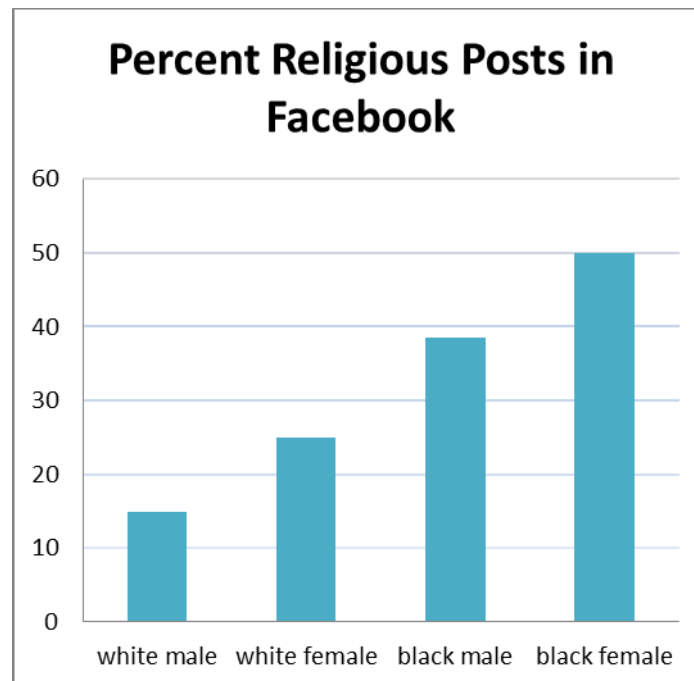
However, our findings show that there are particular domains in which African Americans and males are more at risk of exposure of potentially stigmatizing information. We believe that these findings are important because they show yet another way in which a racial hierarchy can be reproduced in the American society. Our study shows the lack of

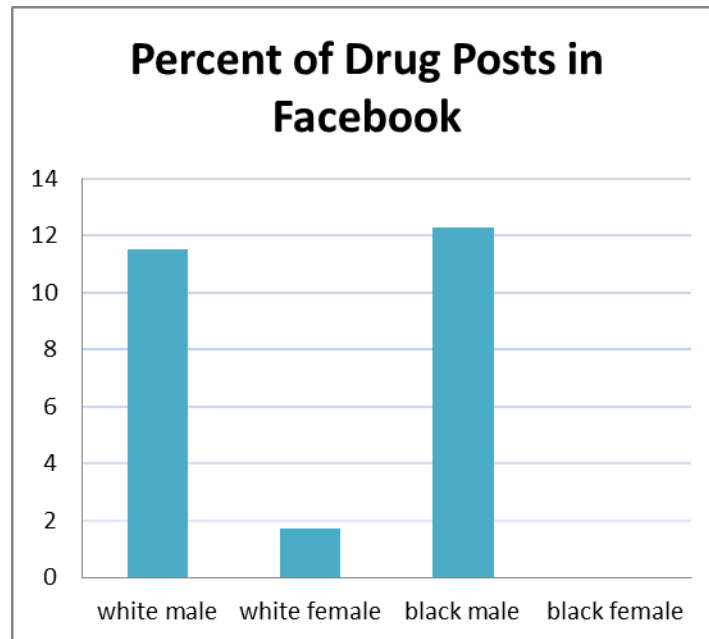
awareness of how information on Facebook can be accessed by others can potentially lead to African Americans being denied college admission and employment opportunities because their Facebook posts tend to be public and tend to have more profanity and religious content. Similarly, our studies show that males are more likely to suffer from revealing profanity and drug use, which means that, in general, black males suffer from dual exposure on both racial and gender grounds. This supports our hypothesis that there are indeed present gender and racial risks in privacy exposure on the Internet, even though the potential causes are unknown.



**Figure 1. Percent of Public Profiles****Figure 2. Logistic Regression Results for Race and Gender**

	Race			Gender		
	B	Sig.	Exp(B)	B	Sig.	Exp(B)
Public Posts	0.91	0.013	2.485	0.306	0.39	1.357
Stigmatizing Posts	-0.443	0.228	1.371	0.315	0.228	1.371
Profanity	0.72	0.04	2.054	-0.813	0.02	0.443
Religion	1.18	0	3.254	0.0538	0.056	1.713
Drug	-0.074	0.889	0.929	-2.826	0.007	0.059

**Figure 3. Percent of Profiles with Profanity Use****Figure 4. Percent of Profiles with Religious Content**

**Figure 5. Percent of Profiles with Drug Content**

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